## (19) World Intellectual Property Organization International Bureau



(43) International Publication Date 23 October 2003 (23.10.2003)

**PCT** 

## (10) International Publication Number WO 03/087737 A1

(51) International Patent Classification7: G01H 11/08, A61B 7/04

(21) International Application Number: PCT/NO03/00111

(22) International Filing Date: 7 April 2003 (07.04.2003)

(25) Filing Language:

Norwegian

(26) Publication Language:

English

(30) Priority Data: 20021666 8 April 2002 (08.04.2002)

(71) Applicant (jor all designated States except US): MED-ITRON ASA [NO/NO]; Leangbukta 40, N-1370 Asker (NO).

(72) Inventor; and

(75) Inventor/Applicant (for US only): ORTEN, Birger [NO/NO]; Ramsvika 31, N-6012 Alesund (NO).

(74) Agent: BRYN AARFLOT AS; P.O. BOX 449 Sentrum, N-0104 Oslo (NO).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

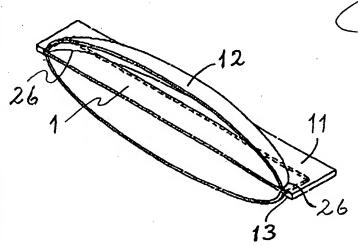
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PIEZOELECTRIC VIBRATION SENSOR



vibration analysis of machine and construction parts.

(57) Abstract: A sensor unit for picking up mechanical vibrations, sound and ultrasound has at least one piezoelectric foil strip (piezo strip) (1; 1'; 1") as a sensor element. The piezo strip has signal wires (5) attached thereto for transporting out electrical signals representing vibration, sound or ultrasound that has been picked up. The piezo strip (1; 1'; 1") is, at two opposite ends, attached in flat support parts (3; 3'; 13), and at least one further strip (2; 2'; 12) of for instance plastic material is attached in the same support parts to extend in curved-out fashion along the piezo strip, thereby to provide at least one space between the strips. Several sensor units can be mounted together in a frame to constitute a sheet with a sensor matrix. Such sensor matrices can be used in computer assisted auscultation on patients, or for sensing in order to prepare a